

11-29-2024

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Recommended Citation

Wungrath J , Sriwongphan R , Kapheak K , et al. Home Births Among Ethnic Minority Communities in Bokeo Province, Lao People's Democratic Republic. *Kesmas*. 2024; 19(4): 264-271

DOI: 10.21109/kesmas.v19i4.1173

Available at: <https://scholarhub.ui.ac.id/kesmas/vol19/iss4/6>

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Home Births Among Ethnic Minority Communities in Bokeo Province, Lao People's Democratic Republic

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Abstract

Home births among ethnic minorities in developing countries pose significant risks to maternal and neonatal health. In Lao PDR, the government has taken steps to manage home births through training traditional birth attendants, improving transportation, and establishing referral systems. However, high home birth rates in regions like Bokeo remain concerning. This review emphasized the need for more skilled birth attendants and better access to emergency obstetric care in rural, ethnic minority areas. This review used 40 articles published between 2000 and 2023 and highlighted gaps in research regarding healthcare access, cultural practices, socioeconomic barriers, and the role of traditional birth attendants. Suggested strategies included scholarships for midwifery training, expanding telemedicine, enhancing emergency transport, and partnering with NGOs for culturally sensitive outreach. Although each strategy has limitations, collectively, they can improve maternal and newborn health outcomes and reduce home birth risks. Addressing cultural beliefs and preferences is essential to encourage healthcare use, and community engagement plays a key role in promoting safer birth practices while respecting traditions. A holistic approach combining skilled healthcare, cultural sensitivity, and accessible services is crucial to improving maternal and newborn care in ethnic minority communities in Lao PDR.

Keywords: home birth, ethnic minority, community

Introduction

The Lao People's Democratic Republic (Lao PDR) is a low-income country¹ with a population of around 7 million people as of 2021.^{2,3} Significant economic growth has been driven by natural resources, infrastructure investment, and tourism but Lao PDR is one of the poorest countries in Southeast Asia. The poverty rate is estimated at 23.2%,³ and prevalent in rural areas where 80% of the population relies on subsistence agriculture.⁴ The economy heavily depends on agriculture (19.1% of GDP), followed by the industrial sector (30.1%) and the service sector (40.4%).³ Lao PDR is burdened with external debt, inadequate infrastructure, and the lack of a skilled labor force.^{3,4} The COVID-19 pandemic negatively impacted the economy.³ Factors contributing to poverty include limited access to education, healthcare, infrastructure, and non-agricultural employment opportunities.⁵ Ethnic minorities like the Lao Theung and Lao Soung have higher poverty levels because of geographic isolation, language barriers, and limited access to resources.^{6,7}

The Lao Government has recognized the importance of economic diversification in reducing dependence on natural resources and fostering sustainable development. Reforms and policy initiatives have been introduced to bolster manufacturing, tourism, and service sectors to create a more competitive and resilient economy.⁸ Manufacturing has been targeted by establishing Special Economic Zones that provide incentives to attract foreign investment and stimulate production.⁴ Tourism has been promoted as a priority sector, with various campaigns, investment in infrastructure, and a focus on preserving and promoting Lao PDR's cultural and natural heritage.^{4,8} The service sector has also witnessed reforms aimed at liberalization to foster private sector participation alongside the development of human capital in fields such as information technology and finance.³ These government-led initiatives are vital for ensuring sustainable and inclusive growth in Lao PDR through ongoing policy reforms, investment in infrastructure, and capacity building.^{3,9}

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Received : March 1, 2024

Accepted : October 30, 2024

Published : November 29, 2024

Lao PDR is home to a rich tapestry comprising 49 official ethnic groups contributing to the nation's diverse cultural heritage. These groups include the Lao Loum, Lao Theung, Lao Soung, and others such as the Khmu, Hmong, and Yao.¹⁰ The Lao Loum predominantly inhabit the Mekong River Valley and are the largest ethnic group in Laos (53.2%).¹⁰ Their culture is heavily influenced by Theravada Buddhism, which is evident in their customs, rituals, and architecture.⁹ They practice wet-rice agriculture and have a deep connection to the land and the Mekong River, which provides sustenance and shapes their way of life.¹¹ The Lao Theung (24.9%) reside in the central mountainous region of Laos, where they practice swidden agriculture, a form of slash-and-burn farming. Animism and ancestor worship are integral to their belief system and guide their daily lives.^{8,9} Lao Theung groups include the Mon-Khmer-speaking people, such as the Khmu, who are known for their skilled craftsmanship and expertise in weaving and basketry.⁷

The Lao Soung (10.6%) live in the northern and southern highlands of the country and encompass groups such as the Hmong and Yao, who are recognized for their unique artistic traditions, including intricate embroidery, silverwork, and batik.⁸ Both the Hmong and Yao maintain strong clan structures and cultural practices, such as the Hmong New Year celebration and the Yao's rich oral storytelling tradition.^{1,10} Other unclassified ethnic groups account for 11.3% of the population and contribute to the diverse cultural landscape of Lao PDR.⁸ These groups include Tai-speaking people such as the Phu Thai and Lue, as well as the Sino-Tibetan-speaking Lahu and Akha.⁸ Despite their cultural wealth, these ethnic groups face unique challenges related to poverty, healthcare, and education. Marginalized communities often have limited access to resources and social services, which exacerbates existing inequalities.^{8,9} Addressing these challenges is essential for sustainable development and social cohesion in Lao PDR while promoting inclusive growth and preserving cultural heritage, which is the key to fostering unity among the country's diverse populations.^{1,6}

This study focused on the major ethnic groups in Bokeo Province, including the Akha, Lahu, and Lao-Tai, to increase data availability concerning the unique challenges these groups face. These three groups represent a significant portion of the population and highlight the diverse circumstances related to home birth practices in the province. The absence of detailed information for all 49 groups reflects the limited scope of previous studies, which predominantly focused on larger ethnic communities. Home births are common in rural Lao PDR, with limited access to health facilities and skilled birth attendants. Factors contributing to high home birth prevalence include distance to health facilities, transportation difficulties, financial constraints, language barriers, and cultural preferences.¹⁰

The inadequate infrastructure and communication systems in remote areas further exacerbate these challenges.^{12,13} Traditional birth attendants (TBAs) who assist women during labor and delivery in rural Lao PDR lack formal training and knowledge of modern obstetric practices.^{1,12,13} They provide vital support, but their limited training hinders their ability to effectively manage birth complications. The home birth rate among rural Lao women is 76%, with 62% attended by TBAs.¹⁰ The Lao Theung and Lao Soung have higher home birth rates compared to the Lao Loum, attributed to their geographic isolation and cultural practices.¹²

Home births increase the risk of maternal and neonatal mortality due to the lack of emergency obstetric care, and complications like postpartum hemorrhage, infection, and birth asphyxia can be life-threatening.^{12,14} In many instances, the timely referral of women and newborns with complications to health facilities is critical for their survival, but this is often hampered by poor access to transport and communication.¹⁵ Traditional practices and beliefs can also contribute to harmful outcomes.^{12,16} Some cultural rituals involve unhygienic practices such as using unsterilized instruments or cutting the umbilical cord with non-sterile tools, thereby increasing the risk of infection for both mother and baby. Certain customs may also delay the initiation of breastfeeding or promote the use of prelacteal feeds, which can increase the risk of malnutrition and illness in the newborn.^{12,13}

Addressing the issue of home births is crucial to achieving the United Nations Sustainable Development Goal (SDG) 3, which aims to ensure healthy lives and promote well-being for all at all ages. Specifically, SDG 3.1 targets a global reduction in maternal mortality, and SDG 3.2 focuses on ending preventable deaths of newborns and children under five years of age.¹⁷ The government of Lao PDR has been working to improve maternal and child health by increasing access to skilled birth attendants, upgrading health facilities, and promoting antenatal care.^{1,10} However, more targeted interventions are needed to address the unique needs and challenges faced by rural and ethnic minority populations to reduce the negative impacts and potential harm associated with home births. The analysis in this review brings a new perspective by integrating a broader understanding of how cultural beliefs specifically interact with healthcare access. Unlike previous literature, which often addressed these aspects independently, this study demonstrated the complex, intertwined relationship between cultural norms, socioeconomic factors, and healthcare barriers that lead to high home birth prevalence. Additionally, this review emphasized community engagement strategies as an effective means of

improving maternal health, an aspect underrepresented in the other studies.

For the past few decades, the World Health Organization (WHO) has tried to enhance maternal health in less developed countries by encouraging women to give birth in health facilities rather than at home. The WHO believes that hospital births lead to better outcomes for mothers and newborns than home births.¹⁸ However, despite these efforts, a substantial proportion of births in developing countries still occur at home rather than in hospitals. This ongoing preference for home births can be explained by women's personal choices and systemic obstacles that prevent pregnant women from accessing or utilizing healthcare services. Home births without properly trained attendants present and locations unreachable by medical professionals have been tied to higher rates of maternal and newborn mortality as well as delivery complications.^{18,19}

In developing countries, home birth services are typically not offered or supported by healthcare systems. Rather, cultural norms and sociodemographic attributes within communities shape home-birthing practices. The lack of official home birth assistance programs, paired with cultural beliefs and population attributes, leads to high rates of non-hospital deliveries in these nations.^{18,20} Studies have revealed that women without any formal education exhibit the greatest likelihood of giving birth at home.^{12,14} Moreover, there are substantial discrepancies in home birthing prevalence between the least and most educated women. Rural dwellers and individuals from lower socioeconomic backgrounds also demonstrate a higher tendency to deliver children in the home versus a health facility.¹⁸

As stated in the report by Hernández-Vásquez *et al.*, analysis of individual countries revealed that home births exceeded 50% of all deliveries in 12 nations.¹⁹ Of those 12, 7 were in Sub-Saharan Africa. The countries with the highest rates of home birthing were Chad (78% home births), Ethiopia (73%), Niger (70%), and Yemen (69%). The first three countries with the highest home birth prevalence were from Sub-Saharan Africa, while Yemen is part of the Middle East and North Africa region.¹⁹ Of all the regions, Europe and Central Asia had the lowest percentage of home births. In that region, Azerbaijan had the highest home birth rate at 22%, while all other countries were below 15%. As for other regions, Lao PDR (East Asia and Pacific) and Myanmar had the highest home birth proportions at 85% and 63%, respectively. Outside those regions, Haiti (Latin America and the Caribbean) had a 60% home birth rate, and Afghanistan (South Asia) had a 51% rate.¹⁸

Home births are common in developing countries like Lao PDR, especially among ethnic minority groups, posing significant challenges to maternal and neonatal health due to limited access to skilled birth attendants and facilities. This article analyzed the contributing factors to high home birth rates in Bokeo Province, Lao PDR, highlighting the complex interplay of cultural norms, socioeconomic issues, and healthcare barriers. The review identified strategies for improving maternal and child health through targeted, culturally sensitive interventions. It emphasized community-driven efforts as essential for addressing these challenges. Overall, the findings aimed to inform better health policies and support for vulnerable communities.

Method

Search Strategy: the literature search was conducted from October to December 2023, focusing on studies published within the past 10 years. The search terms included "home births in developing countries," "maternal health in ethnic communities," "healthcare access in rural areas," "cultural practices and maternal care," and "emergency obstetric care strategies." Searches were performed using academic databases such as PubMed/Medline, Scopus, and Google Scholar. Additionally, references from selected articles were examined to ensure comprehensive coverage and to avoid missing relevant studies. Only English-language articles were included to maintain consistency.

Selection of Studies and Data Extraction: this review targeted studies addressing factors influencing home births, maternal health challenges in ethnic communities, and interventions to reduce home birth rates in developing countries, particularly Lao PDR. Titles and abstracts were screened independently by the authors to identify relevant studies. Full-text reviews were conducted on shortlisted articles, and the final selection was determined by consensus among all reviewers. Data extraction involved evaluating each study for key themes, methodologies, and outcomes related to healthcare access, cultural practices, and community-based interventions. The extraction process was structured, with authors recording details of study characteristics, sample size, research design, and findings into a standardized template. This approach ensured consistency in documenting relevant information and minimized bias during the data extraction phase. Authors independently completed the template for each study and then cross-verified their entries. Discrepancies were discussed and resolved collaboratively to ensure accuracy. The extracted data were collectively analyzed to identify

gaps and inform the discussion on strategies to improve maternal and newborn health outcomes in rural and ethnic minority communities. Ultimately, from a pool of 61 studies, the authors independently selected 40 studies that met the criteria, extracted the data, and used them for writing this review article.

Results and Discussion

Home Birth Situation Among Ethnic Groups in Bokeo Province, Lao PDR

Home birth is a common practice among ethnic groups in many developing countries, including Lao PDR. Bokeo Province, located in the northwest of the country, can be partly attributed to the prevalence of home births. In this district, home births account for 70% of all deliveries.^{20,21} A study conducted in 2020 examined the different rates of home births among various ethnic groups in Bokeo, revealing significant disparities.²² The Akha and Lahu ethnic groups had notably higher home birth rates than the Lao-Tai ethnic group.²² Among Akha women, 82% opted for home births, while 81% of Lahu women followed suit.²² In contrast, the rate of home births among Lao-Tai women was considerably lower, at 44%.²²

The Bokeo Province in Lao PDR has 163,000 residents, 73% of whom are ethnic minorities. This district has high maternal and newborn mortality rates that exceed national averages.²¹ Most home births had no prenatal or postnatal care.²¹ Factors linked to home births were young maternal age, less education, higher parity, and longer distance to health facilities.²¹ This data indicates a need to improve Bokeo minorities' access to, awareness of, and education about healthcare services to lower maternal and newborn mortality rates.^{21,22}

Several factors contributed to the high rate of home births in Bokeo Province, including the district's challenging geography, cultural beliefs and practices, and lack of awareness and education about the importance of giving birth in a health facility. The district's mountainous terrain and limited access to health facilities made it difficult for women to access antenatal and postnatal care and give birth in a health facility. The nearest hospital is located 20-30 km away, and many roads are impassable during the rainy season, which further compounds the challenges.^{21,23} Cultural beliefs and traditional practices also played a significant role in the high rate of home births in the Bokeo Province. In many ethnic minority groups, home birth is considered a tradition and a way to maintain cultural identity.²¹ Women are also expected to give birth at home to demonstrate strength and resilience.²¹ This cultural expectation makes it difficult for pregnant women to seek care in a health facility, which may be perceived as a sign of weakness or inability to cope with childbirth. Another factor contributing to the high rate of home births was the lack of awareness and education about the potential risks associated with home birth and the importance of giving birth in a health facility. Many women and their families are not aware of the benefits of giving birth in a health facility or the risks associated with home birth.²⁴ Lack of knowledge and awareness can lead to a lack of trust in healthcare providers, further reinforcing the practice of home birth.

One of the significant concerns regarding home births was the lack of proper healthcare services and the absence of antenatal and postnatal care. The study by Kapheak *et al.* reported that the majority of women who gave birth at home did not receive any antenatal care, and only a small proportion received postnatal care.²² In contrast, almost all women who gave birth in a health facility received antenatal care, and 46% received postnatal care.^{21,22} The absence of antenatal care significantly increased the risk of maternal and neonatal mortality and morbidity, including complications such as pre-eclampsia, premature labor, and maternal hemorrhage. Similarly, postnatal care is essential for monitoring the health and well-being of both the mother and the newborn and identifying any complications early.^{21,22}

Why do Ethnic Minority Groups in Lao PDR Choose Home Birth?

The reasons rural Laotians choose home birth are comfort, convenience, and proximity to family.^{23,24} The influence of tradition should not be overlooked. Many generations of women have given birth at home, so why should the current generation choose differently? While complications and preventable deaths can occur during home births, it is important to remember that most births proceed without issues. This leaves women and their families with the impression that there is little benefit in making the often-difficult journey to a health facility where they will be mostly alone, without the support of relatives, and subjected to unfamiliar and unwelcome birthing practices.¹⁴

Consistent with previous studies on rural birth preferences worldwide, women and families in this study objected to certain hospital delivery methods like episiotomies, lying down to give birth, having male attendants, and exposing private anatomy to strangers. These procedures can cause embarrassment and distress while also conflicting with traditional postpartum practices like using a hotbed, a traditional heated surface, often made from a bed of coals or

heated stones placed under a sturdy surface, believed to aid in recovery and promote health by warming the body and facilitating blood circulation after childbirth.

Study participants also worried about inadequate privacy in facilities and discomfort with examinations by male staff, echoing similar feedback on Maternal Waiting Homes. Those results led authors to advise that vaginal exams only be conducted by female employees and that women's and families' privacy should be protected as much as possible.^{14,25,26}

Inadequate access to health facilities poses another major obstacle to developing countries. Facilities are far from rural villages, roads can be poor, and travel costs are high. Previous studies on barriers to using Maternal Waiting Homes in southern Lao PDR found that the primary difficulties were transportation expenses, fees for facility-administered medicines, and income losses while away. The long distances, transportation hurdles, and financial burdens deter many rural women from seeking institutional deliveries.^{14,27,28}

The Lao PDR Government's Measures to Manage Home Births Among Ethnic Minority Groups

In 1998, Lao PDR partnered with WHO to start the Safe Motherhood Program, which is intended to reduce maternal mortality and illness. This program strives to ensure women can access healthcare throughout life and newborns receive necessary medical services. Major program components encompass prenatal care, safe delivery, postpartum checkups, complication management, and family planning. Additionally, in 2008, Lao PDR's Ministry of Health launched the Maternal, Newborn, and Child Health Initiative in select provinces, with WHO and United Nations Population Fund (UNFPA) technical support. This initiative aims to train TBAs, provide transportation, establish referral systems, and promote community involvement.^{12,29}

The TBAs are often the primary healthcare providers in rural areas, and they can play a crucial role in managing home births. However, TBAs often lack formal training and may not have the necessary skills to manage complications during childbirth. Training TBAs in essential skills, such as identifying and managing complications during childbirth, can help improve maternal and neonatal health outcomes. The Lao government has recognized the importance of training TBAs and has implemented a program to train and certify TBAs in essential skills.^{28,29}

Lack of transportation is a significant barrier to healthcare services in rural areas. Providing transportation to expectant mothers can help ensure that they have access to healthcare services during childbirth. The Lao government has implemented a program to provide free transportation to pregnant women to encourage them to seek healthcare services during childbirth. A study conducted in Lao PDR found that providing transportation to pregnant women significantly increased the utilization of healthcare services during childbirth, which can contribute to improved maternal and neonatal health outcomes.²⁹

In case of complications during childbirth, it is essential to have a referral system in place to transfer the mother and baby to a health facility for further care. This can help prevent adverse outcomes and ensure timely intervention. The Lao government has recognized the importance of establishing a referral system and has implemented a program to strengthen the referral system in rural areas. A previous study found that the referral system program has been successful in improving the availability and utilization of healthcare services among pregnant women and their families, which can contribute to improved maternal and neonatal health outcomes.³⁰

Engaging the community in promoting safe and healthy childbirth practices can help increase awareness and support for home births.²¹ This can be achieved through community outreach programs, where health providers can educate the community about the benefits of giving birth in a health facility and the risks associated with home births. The Lao government has implemented a program to promote community involvement in maternal and child health by training village health volunteers to educate and mobilize communities to promote maternal and child health.¹² The program has successfully improved community awareness and support for maternal and child health, which can contribute to improved maternal and neonatal health outcomes.¹²

Alternative Strategies for Home Births Among Ethnic Groups in Bokeo Province, Lao PDR

The alternative strategies for addressing home births in Bokeo, Lao PDR, should focus on addressing the geographic isolation and cultural practices unique to ethnic groups in the region. This includes increasing trained TBAs or midwives within these ethnic communities to overcome cultural and linguistic barriers better. This can be done through a variety of measures, such as, first, providing scholarships or incentives for ethnic minority students to become midwives or other skilled birth attendants, with a focus on training and recruiting individuals from within ethnic minority

communities.³⁰⁻³² One potential limitation is that it may not be sufficient to address the underlying factors that contribute to the prevalence of home births among ethnic minorities in Lao PDR. Even if there are more skilled birth attendants available, some women may still prefer to give birth at home due to cultural beliefs or lack of access to transportation or health facilities. Additionally, providing scholarships or incentives may not address other challenges, such as the shortage of health workers in rural and remote areas or the lack of resources to support the training and deployment of skilled birth attendants. It may also take time to see the results of such initiatives, as it takes time to train and build a workforce of skilled birth attendants.³²⁻³⁴

Second, expanding telemedicine and other digital health services are also solutions to improve access to emergency obstetric care and remote consultations with skilled birth attendants.^{35,36} This strategy can be a valuable approach to improve access to emergency obstetric care and remote consultations with skilled birth attendants in remote and rural areas where ethnic minorities reside in Lao PDR. However, this approach has several limitations, including limited internet connectivity and technological infrastructure, cultural beliefs and preferences, and cost. Therefore, while telemedicine and digital health solutions can be useful, they should be accompanied by other measures, such as improving access to health facilities and transportation and engaging with communities to address cultural beliefs and preferences.³⁷

Given the mountainous terrain of Bokeo, the third strategy better be increasing emergency transportation availability, which should involve off-road vehicles capable of navigating difficult terrain and, in extreme cases, helicopter services for life-threatening complications during home births.^{36,38} This strategy can be useful to ensure timely access to health facilities for women experiencing complications during home births. However, if Lao PDR chooses this approach, there are several limitations to consider. For example, the lack of infrastructure and trained personnel to operate and maintain the transportation systems could limit the effectiveness of this approach. Additionally, providing emergency transportation may not address other underlying factors, such as cultural beliefs and preferences for home births, which may still prevent some women from seeking timely medical care. Finally, providing emergency transportation services may be costly, and Lao PDR may face challenges in sustaining this approach in the long term. Therefore, while increasing the availability of emergency transportation can be a valuable strategy to improve access to emergency obstetric care, it should be complemented by other measures, such as improving healthcare infrastructure and addressing cultural beliefs and preferences.³⁹

The fourth, partnering with community-based organizations and ethnic leaders to provide culturally sensitive education delivered in the native languages of these groups, will be crucial in overcoming the deeply ingrained traditions of home births. It is to increase awareness of the risks and benefits of home births and encourage using skilled birth attendants and health facilities.^{36,40} This strategy can be effective in raising awareness of the risks and benefits of home births while also encouraging the use of skilled birth attendants and health facilities. However, the limitations will be the lack of access to remote and rural areas, limiting the reach of education and outreach programs, making it difficult to communicate with targeted communities effectively. Additionally, cultural beliefs and preferences may still prevent some women from seeking skilled birth attendants and health facilities, even if they are aware of the risks associated with home births. Finally, partnering with NGOs and community-based organizations may require significant coordination and resources, which can be a challenge to sustain in the long term. Therefore, while partnering with NGOs and community-based organizations can be a valuable strategy, it should be accompanied by other measures, such as improving healthcare infrastructure and addressing cultural beliefs and preferences.⁴⁰

By specifically addressing geographic isolation, cultural traditions, and limited access to healthcare in Bokeo Province, Lao PDR, these strategies can significantly reduce maternal and neonatal risks associated with home births. However, it is important to note that these measures will require a significant investment of resources and long-term commitment from the government and other stakeholders to be successful. It is because they involve enhancing healthcare infrastructure, recruiting and training a skilled workforce, and establishing reliable transportation systems in remote areas. Such improvements cannot be achieved quickly or without considerable financial resources. They require ongoing support and collaboration between the government, non-governmental organizations, and community leaders to maintain the quality and accessibility of healthcare services in the long term. Ensuring sustainability also means committing to community engagement initiatives addressing cultural beliefs to integrate these changes within the communities. Lao PDR can reduce the maternal and neonatal risks associated with home births, creating safer outcomes for ethnic minorities and vulnerable populations across the country with this sustained effort.

Conclusion

Home births are prevalent in Lao PDR, particularly among ethnic minorities, posing significant health risks. The government has implemented measures like training traditional birth attendants and providing transportation. However, more efforts are needed to address the complex factors contributing to high rates. An alternative strategy could be increasing skilled birth attendants and improving access to emergency obstetric care in rural areas. However, these measures require significant investment and long-term commitment.

Abbreviations

Lao PDR: Lao People's Democratic Republic; TBA: traditional birth attendants; SDG: Sustainable Development Goal; WHO: World Health Organization.

Ethics Approval and Consent to Participate

Not applicable.

Competing Interest

The authors declare that they have no competing interests related to the research, authorship, and publication of this article.

Availability of Data and Materials

Data and materials are available upon request to the corresponding authors.

Authors' Contribution

JW led the conceptualization, literature review, and manuscript drafting. RS contributed to the analysis and interpretation of the reviewed literature. KK and WR assisted with organizing the literature and refining the manuscript. JW provided critical revisions and academic feedback. All authors approved the final version.

Acknowledgment

The authors would like to express their sincere gratitude to the Faculty of Public Health, Chiang Mai University; the Health Center for Ethnic Group, Marginal People and Migrant Worker; and the Health Promotion Center Region 1, Department of Health, Ministry of Public Health, for their invaluable support and the opportunity provided for the development of this article.

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